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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/862,449	05/23/2001	Sung Han Kim	1514.1002	8882

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EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/862,449

Applicant(s)

KIM ET AL.

Examiner

Camie S Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 8 is/are allowed.
- 6) ☒ Claim(s) 11-24 is/are rejected.
- 7) ☒ Claim(s) 4-7, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

1. Applicant's amendment and accompanying remarks filed February 6, 2003 have been acknowledged.
2. Examiner acknowledges amended claims 2, 11, 14, 18 and 21.
3. Examiner acknowledges applicant's claim for foreign priority based on an application filed in Korea on October 17, 2000.
4. The objection to claim 2 is withdrawn due to applicant's amended claim 2.
5. The rejection of claims 14 and 21 under 35 U.S.C 112, second paragraph is withdrawn due to applicant's amended claims 14 and 21.

### ***Claim Objections***

6. Claims 4, 7, 9 and 10 are objected to because of the following informalities: There is a period missing at the end of claims 4, 7, 9 and 10. Appropriate correction is required.
7. Claims 7 and 10 objected to because of the following informalities: The formula found in claims 7 and 10 have a carbon that contains 5 bonds. Appropriate correction is required.
8. Claims 5 and 6 are objected to because of the following informalities: Triarylsilylphenyl is misspelled in claim 5 and anthracene is misspelled in claim 6. Appropriate correction is required.

*Claim Rejections - 35 USC § 102*

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

10. Claims 11-12,14,18-19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kreuder et al., U.S. Patent Number 5,763,636.

Kreuder discloses polymers containing spirofluorene units and aryl groups that can be used for electroluminescent display devices as per instant claims 11 and 18 (see abstract; column 3, lines 45-60; columns 6-9 and column 12, lines 55-68). In addition, the Kreuder reference discloses that the organic electroluminescence display device comprises a pair of electrodes and an organic layer formed between the pair of electrodes, the organic layer comprises material formed of an aryl group and spirofluorene groups as per instant claim 18 (see column 13, lines 33-58).

Kreuder discloses that *m* in formula I can be 1, 2, 3 or 4 which indicates that there can be more than 1 spirofluorene group (see column 3, line 27). Additionally, Kreuder discloses that U<sup>1</sup> and V<sup>1</sup> can be –CR<sup>7</sup>R<sup>8</sup>– are identical or different and where R<sup>7</sup> and R<sup>8</sup> are identical or different and are H, a straight chain or branched alkyl groups having 1 to 22 carbon atoms, which would read

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on t-butyl groups in the spirofluorene groups as per instant claim 14 and 21 (see column 2, lines 20-67). Kreuder's compounds of formula I, where  $m$  is 2, 3, or 4 read on instant claims 12 and 19 in view of applicant's arguments in the third paragraph of page 3 of paper filed February 6, 2003.

11. Claims 15-17 and 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Igarashi et al., U.S. Patent Number 6,310,231.

Igarashi discloses silane compounds that are constituent material of a luminescent device.

Igarashi discloses various compounds reading on instant claims 15-17 and 22-24. For example, see formula (2-10) in Column 18. It is also reasonable to expect the triarylsilphenyl groups of compound (2-10) are distorted as required by instant claims 16 and 23 in view of the last two lines of page 7 of the present specification.

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 11-14 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuder et al., U.S. Patent Number 5,763,636.

Kreuder discloses polymers containing spirofluorene units and aryl groups that can be used for electroluminescent display devices as per instant claims 11 and 18 (see abstract; column 3, lines 45-60; columns 6-9 and column 12, lines 55-68). In addition, the Kreuder reference discloses

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that the organic electroluminescence display device comprises a pair of electrodes and an organic layer formed between the pair of electrodes, the organic layer comprises material formed of an aryl group and spirofluorene groups as per instant claim 18 (see column 13, lines 33-58).

Kreuder discloses that  $m$  in formula I can be 1, 2, 3 or 4 which indicates that there can be more than 1 spirofluorene group (see column 3, line 27). Kreuder suggests that the spirofluorene groups may be attached to an anthracene group. For example, see Kreuder's claim 9. When an anthracene and spirofluorene are attached to each other, steric hindrance and distortion as per instant claims 13 and 20 are inherently present.

14. Claims 1-3 and 8 are allowed.

15. Claims 4-7, 9 and 10 would be allowable if rewritten to overcome the objections for informalities noted in this office action.

### ***Response to Arguments***

16. Applicant's arguments filed February 6, 2003 have been fully considered but they are not persuasive. Applicant argues that Kreuder reference does not disclose two-spiro linked fluorene units. The Kreuder rejection is maintained because  $m$  in formula I can be 1, 2, 3 or 4. Therefore, Kreuder reads on an organic electroluminescence compound comprising an aryl group and spirofluorene groups on at least one side of the aryl group.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If

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attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone numbers for the Group are (703) 872-9310 {before finals} and (703) 872-9311 {after finals}.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.



MARIE YAMNITZKY  
PRIMARY EXAMINER

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